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ABSTRACT

The purpose of the case study reported in this paper was to investigate the level of self-knowledge and strategic awareness of above average college students and to determine whether students could benefit from instruction in learning and study strategies. Subjects, 11 students with a mean combined Scholastic Aptitude Test score of 1,100 attending a small private liberal arts college with high admissions standards, participated in a 2-week workshop on learning strategies conducted by the experimenter. Workshop sessions included instruction in prereading, during reading, and postreading strategies which would enhance independent learning and promote retention of written material by increasing metacomprehension ability. Subjects completed pre- and post-objective tests, pre- and post-summaries, and a self-report measure. Results indicated that the subjects were surprisingly deficient in awareness and use of efficient strategies for learning from text and that they can benefit from strategy instruction which promotes increased levels of awareness of the variables of self, task, text, and strategy. (Two tables of data are included; 15 references are attached.) (RS)

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Are Above Average College Students Strategic Learners and/or Can They Be Taught to Be? A Case Study

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Are Above Average College Students Strategic Learners and/or Can They Be Taught to Be? A Case Study

Metacogniton has increasingly been mentioned as a requisite ability in successful independent studying and learning from text. In this sense, metacognition refers to knowledge and control of the self, task, and strategy variables which interact for successful performance (Flavell, 1979). It has been determined that metacognition is a developmental trait (e.g., Ackerman, 1982; Baker, 1979; Markman, 1977; Townsend, 1983) and the term "mature reader" often encompasses the notion that the reader knows why, when, and how to apply specific strategies appropriate to the task (Paris, Lipson, & Wixson, 1983).

Instructional research in this area has demonstrated that metacognitive abilities, or metacomprehension, can be developed or refined through instruction (e.g., DeWitz, Carr, & Patberg, 1987; Palincsar & Brown, 1984; Paris, Cross, & Lipson, 1984; Schmitt, 1988; Short & Ryan, 1984). The target populations for many of these studies have been younger readers or older students who have not yet acquired these abilities.

These efforts seem to be based on the premise that high achieving students, that is, "mature learners", possess effective and efficient learning and study strategies. On the surface, this assertion seems valid; however, anyone who has worked with college students might be wary of such a claim. It is clearly worthy of investigation.

Therefore, it was the purpose of this case study to investigate the level of self-knowledge and strategic awareness that above average college students possess, as well as to determine if students could benefit from instruction in strategies, adapted from Schmitt (1988), which promote increased levels of strategic, independent learning from text.

Method

Subjects

The sample consisted of 14 students, 9 males and 5 females, from a small private liberal arts university with high admission standards. There were 9 freshmen, 1 sophomore, 2 juniors, and 2 seniors in the group. The mean combined score on the Scholastic Aptitude Test (SAT) was 1100 for these students. Three students (1 male and 2 females) were dropped from the final analyses because they missed either the pretest or the posttest session, leaving N = 11 for the data analysis. The group was participating in a two-week workshop on learning strategies being conducted by the experimenter. The students had chosen to be involved in the workshop, which was one of 100 courses covering various topics being offered during a four-week winter term at the university.

Procedure

During the first session, the subjects completed a self-report questionnaire designed by the experimenter to determine their current

knowledge and use of reading and study strategies. The questionnaire consisted of the following questions:

> Describe how you read a chapter assigned for a class. Include all strategies you use, if any.
>
> Describe how you study the chapter for a test.
>
> Do you study differently for objective tests (e.g., multiple choice) versus essay tests? Describe how.
>
> Do you take reading notes for assigned reading? If so, describe the format you use.

Then they were directed to read a social studies selection, which included first and second level headings, to write a summary of its content, and to complete an objective test with a multiple choice format on the details. The summary served as a baseline measure for each subject, providing information about his or her: (a) ability to discern main ideas; (b) general comprehension; (c) short term retention of important ideas; and, (d) ability to write summaries. The objective test provided information about recognition recall of details.

The workshop sessions, which totalled 21 hours, included instruction in prereading, during reading, and postreading strategies which would enhance independent learning and promote retention of written material by increasing metacomprehension ability. That is, the students were taught to engage in activities which promoted awareness and regulation of cognition which included: analysis of a)

self-characteristics related to the task, b) the characteristics of the text, c) the characteristics and demands of the task, and d) the use of strategies as an interaction of the self, task, and text variables. Specifically, for prereading, subjects were taught how to preview the material to determine text characteristics and activate background knowledge, to generate prequestions, to formulate predictions/hypotheses about the content, and to set purposes and make plans/strategies for reading. For during reading strategies, subjects were taught how to read to verify or reject hypotheses and formulate new ones, to answer prequestions, and to summarize subsections of the materials as a monitoring strategy. As postreading strategies, the subjects were taught how to check on their purposes and to generate a written outline using either a summary outline or semantic web outline format which would help them clarify and remember the relationships among ideas in the text. The experimenter provided explicit descriptions of, rationale for, and instructions for using the strategies, providing appropriate declarative, procedural, and conditional knowledge. A college level introduction to psychology text was used as the written material and students completed practice tasks outside of class.

During the concluding session, subjects completed evaluation activities identical to the pretests described above which provided information about their gains in the areas described.

Data Analyses

Pre and post written summaries were evaluated by comparing them to master lists of the main ideas for each paragraph in the selections.

Scores consisted of the percentage of main ideas included in each summary. The objective tests were checked for the number of correct answers, with the scores being the total correct. Paired student *t* tests were conducted on the summary scores and on the objective test scores to compare the differences between achievement at the pre and post stages. The self-report questionnaires were analyzed qualitatively to determine the students level of awareness and use of strategic learning strategies. More specifically, the experimenter generated a list of 22 strategies or behaviors generally considered to be effective for reading and learning from text, following Brown and her associates' four part model wherein successful learning hinges on consideration of: a) available strategies; b) learner characteristics; c) type of text; and d) purpose or task (Brown, Campione, & Day, 1981). The experimenter then evaluated the student self-reports for references to these strategies or behaviors. Apparent knowledge of or use of a strategy or behavior was counted as one point and the points were tallied for a "learning strategy rating". (See table 1 for list of strategies.)

Results and Discussion

Table 2 presents the mean observed scores and standard deviations for the pre and post objective tests, the pre and post summaries, and the self-report measure, which was given only at the pre-experiemental stage. Paired *t* tests results revealed no statistically significant differences between the pre and post objective test scores, $t(10) = 0.36$, $p > .10$, but revealed statistically significant differences between the pre and post summaries, $t(10) = 2.59$, $p < .05$.

Self-report Questionnaires

The self reports of study techniques revealed interesting information on the paucity of effective learning strategies these high-aptitude college students employ or seemingly are even aware of. The students were given one point for each of the strategies or behaviors they mentioned from the list. The average score was only two. By far the most common technique mentioned was the age-old method of underlining or highlighting the main points, with 7 of the 14 students (50%) claiming this as a strategy for reading a chapter for a class. The second most common techinque was taking some form of notes during reading or studying, with five students (35%) claiming to do this. Two students (14%) mentioned outlining, and there was one reference (7%) for each of the following strategies: previewing, using graphic aids, and checking text summaries. And in terms of awareness of learner characteristics or personal resources, one student mentioned that he would change his strategy depending on "how confident I am with the material".

On a somewhat more positive note, it was evident from the strategies mentioned that seven students (50%) are aware of the need to adjust their strategies according to purposes; that is, these students indicated they would employ different strategies for reading a chapter for a class versus studying the chapter for a test or for studying for a multiple choice test versus studying for an essay test. No references were made to any of the other effective strategies or behaviors listed in Table 1.

These findings are consistent with the data reported by Simpson (1984) where she found that college freshman had a restricted range of study strategies, could rarely explain why a strategy was important to their own learning process, had a single study strategy for most learning tasks regardless of the content area, and had little idea how to know or check when they were ready for a test.

However, one must be cautious about interpreting results from self-report measures about study strategies. As Brennan and her colleagues found (Brennan, Winograd, Bridge, & Hiebert, 1986), based on observations, students do not always perform the strategies they say they do. Since the strategies reported by the students in the present study were rather meager in number and quality, the implication that they might not do even the things they mentioned is disheartening.

Objective Tests and Summaries

The students significantly increased their performance on the summary recall measure but not on the objective test taken at the end of the workshop. This latter finding was somewhat surprising but not totally unexplainable. The objective test was purposely designed to test literal level detailed information to determine the effects of the strategy on remembering more specific information than would be available in a summary recall. It was presumed that the summaries would provide more global information and would make more explicit the relationships (e.g., causal, sequential) among the ideas in the selection.

There are two plausible interpretations of the data. First, the study strategy is effective but for only essay type response formats, indicating that the information studied is learned at a more global level and that specific literal level details are lost. Second, it is possible that the objective test was comprised of questions that were too detailed to be realistic. The mean score was 75% so this is unlikely. In either case, the students apparently benefitted from the learning strategy instruction as evidenced by their increased performance on the posttest summary. It is clear that at least some level of understanding and memory was affected.

The first interpretation, that specific strategies may be related to posttest response measures, is consistent with what King and his colleagues found when they trained one group of students to generate summaries as a study strategy and another group to generate interspersed self-questions (King, Biggs, & Lipsky, 1984). The self-questioning group demonstrated improvement on objective test measures but not on free recall or essay tests, while the summary group performed significantly better on both types, but with more robust results on the essay type.

Conclusions

The results of this study indicate that even high-aptitude college students, with a mean SAT score of 1100, are surprisingly deficient in awareness and use of efficient strategies for learning from text. It seems, however, that they can benefit from strategy instruction which promotes increased levels of awareness of the variables of self, task,

text, and strategy, at least for information that is included in essay response formats such as summaries.

The purpose of a case study is to generate, not confirm or disconfirm hypotheses, so the results of this research should be considered only tentative at best. It does, however, raise some interesting questions for future research and instruction. If these high-aptitude college students were so alarmingly deficient in their knowledge or use of learning strategies, might we assume that all college students would benefit from a learning strategies course? Would students continue to use strategies learned? And should more emphasis in learning strategy instruction be placed on adjusting strategies to match the purposes for studying (e.g., for class discussions, for objective tests, for essay tests)? There is much to be gained from investigations of college students' learning strategies.

References

Ackerman, B. P. (1982). Children's use of contextual expectations to detect and resolve comprehension failures. Journal of Experimental Child Psychology, 33, 63-73.

Baker, L. (1979). Comprehension monitoring: Identifying and coping with text confusions. Journal of Reading Behavior, 11, 363-364.

Brown, A. L., Campione, J. C., & Day, J. D. (1981). Learning to learn: On training students to learn from texts. (Tech. Rep. No. 189). Urbana, IL: University of Illinois, Center for the Study of Reading.

Brennan, S., Winograd, P. N., Bridge, C. A., & Hiebert, E. H. (1986). A comparison of observer reports and self-reports of study practices used by college students. Solving Problems in Literacy: Learners, teachers, & researchers. Thirty-fifth yearbook of the National Reading Conference.

DeWitz, P., Carr, E. M., & Patberg, J. P. (1987). Effects of inference training on comprehension and comprehension monitoring. Reading Research Quarterly, 22, 99-119.

Flavell, J. H. (1979). Metacognition and cognitive monitoring: A new area of cognitive-developmental inquiry. American Psychologist, 34, 906-911.

King, J. R., Biggs, S., & Lipsky, S. (1984). Students' self-questioning and summarizing as reading study strategies. Journal of Reading Behavior, 16, 205-218.

Markman, E. M. (1977). Realizing that you don't understand: Elementary school children's awareness of inconsistencies. Child Development, 50, 643-655.

Palincsar, A. S., & Brown, A. L. (1984). Reciprocal teaching of comprehension fostering and monitoring activities. Cognition and Instruction, 1, 117-175.

Paris, S. G., Cross, D. R., & Lipson, M. (1984). Informed strategies for learning: A program to improve children's reading awareness and comprehension. Journal of Educational Psychology, 76, 1239-1252.

Paris, S. G., Lipson, M. Y., Wixson, K. K. (1983). Becoming a strategic reader. Contemporary Educational Psychology, 8, 293-316.

Schmitt, M. C. (1988). The effects of an elaborated directed activity on the metacomprehension skills of third graders. Dialogues in Literacy Research: The Thirty-seventh Yearbook of the National Reading Conference.

Short, E. J., & Ryan, E. B. (1984). Metacognitive differences between skilled and less skilled readers: Remediating deficits through story grammar and attribution training. Journal of Educational Psychology, 76, 225-235.

Simpson, M. L. (1984). The status of study strategy instruction: Implications for classroom teachers. Journal of Reading, 28, 136-142.

Townsend, M. A. R. (1983). Schema shifting: Children's cognitive monitoring of the prose-schema interaction in comprehension. Journal of Experimental Child Psychology, 36, 139-149.

Table 1

Strategies or Behaviors for Effective Reading and Learning from Text

STRATEGIES
Previewing/Skimming (title, headings)
Checking overviews
Checking summaries
Generating prequestions
Generating predictions
Underlining/Highlighting main points or terms
Taking notes
Outlining main points
Annotating text
Using graphic aids
Reciting information
Checking on or answering prequestions
Checking on predictions
Checking on comprehension (monitoring)
Summarizing
Mapping ideas
Using group study techniques
LEARNER CHARACTERISTICS
Determining or activating background knowledge
Comparing task to personal characteristics/resources

TYPE OF TEXT

Determining text characteristics

PURPOSE OR TASK

Determining or setting purpose

Choosing/Adjusting strategies according to purpose/task

Table 2

Descriptive Statistics for Pre and Post Test Scores and Summaries

		Pre		Post	
Measure	n	M	SD	M	SD
Objective Test	11	16.09	1.70	15.81	2.60
Summary	11	0.2703	0.166	0.4087	0.131
Self-Report	14	2.01	0.877	--	--

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